

092404-04300

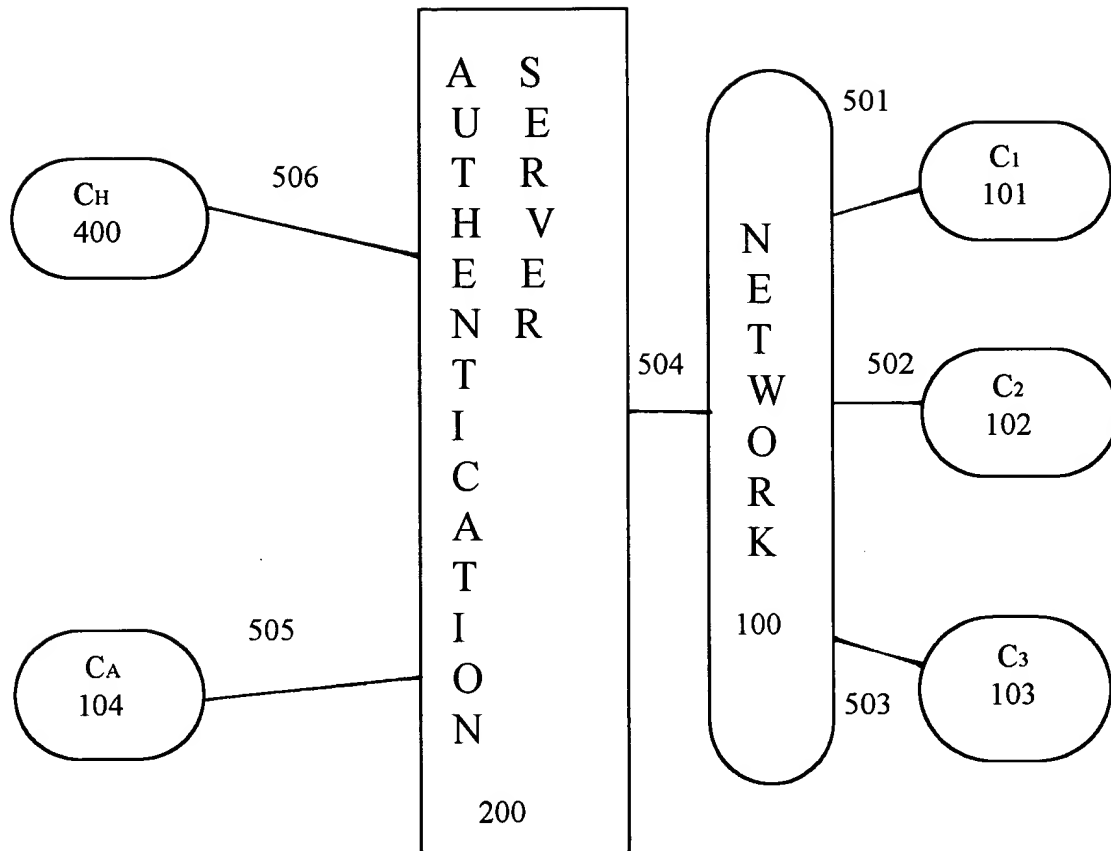


Figure 1

09560784.042800

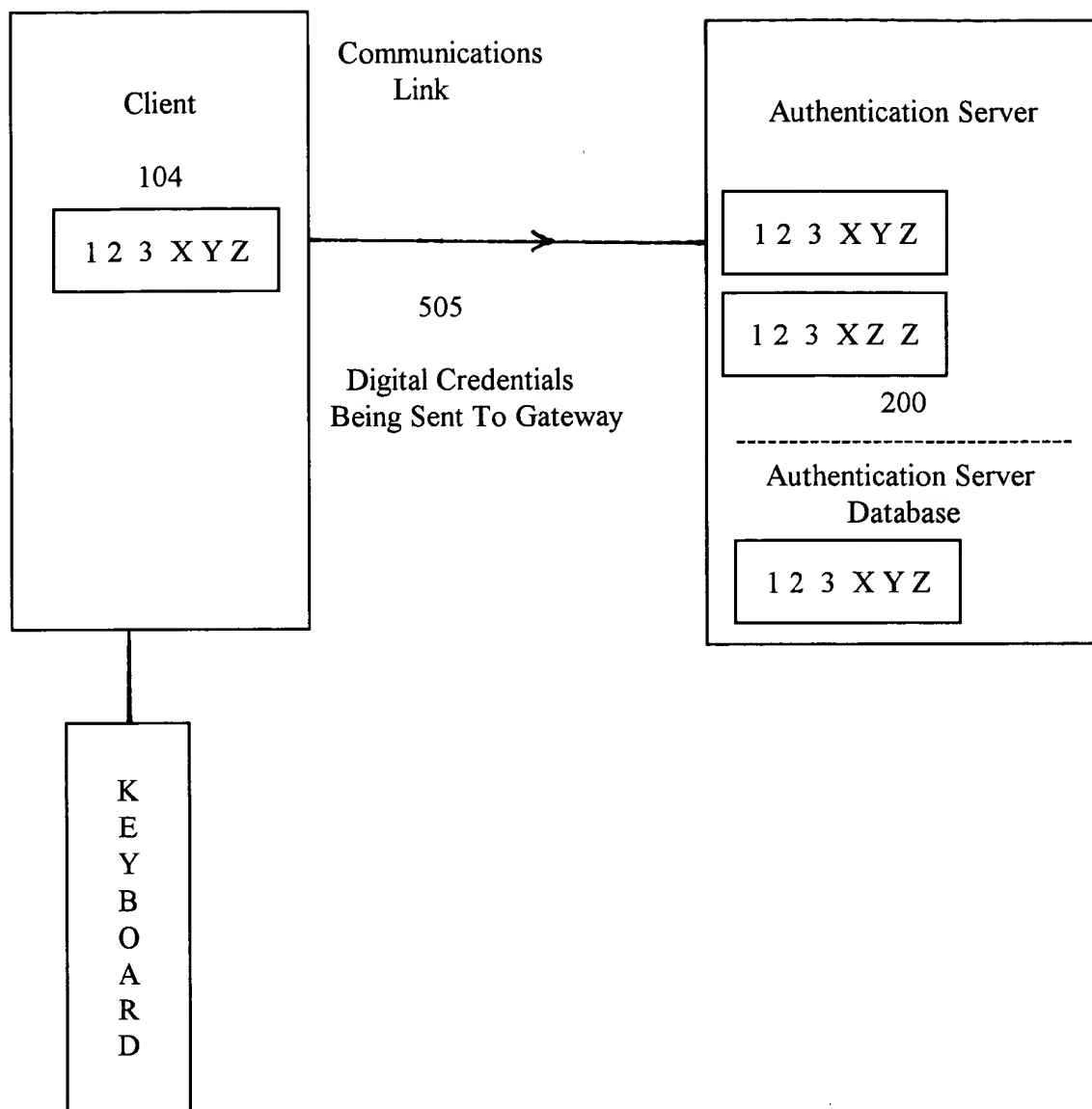


Figure 2

The diagram illustrates the Authentication Server 200 and its interaction with Client 104. Client 104 is shown with a box containing the text "1 2 3 X Y Z" and a fingerprint icon. An arrow labeled "Communications Link" points from Client 104 to the Authentication Server 200. Below the arrow, the text "505 Digital Credentials Being Sent To Gateway" is displayed. The Authentication Server 200 is shown with two boxes: the top one contains "1 2 3 X Y Z" and a fingerprint icon, and the bottom one contains "1 2 3 X X Z" and a fingerprint icon. A dashed line separates the server from the "Authentication Server Database", which contains a box with "1 2 3 X Y Z" and a fingerprint icon. Below the Authentication Server 200, there are two vertical boxes labeled "KEY BOARD" and "SCANNER".

Figure 3

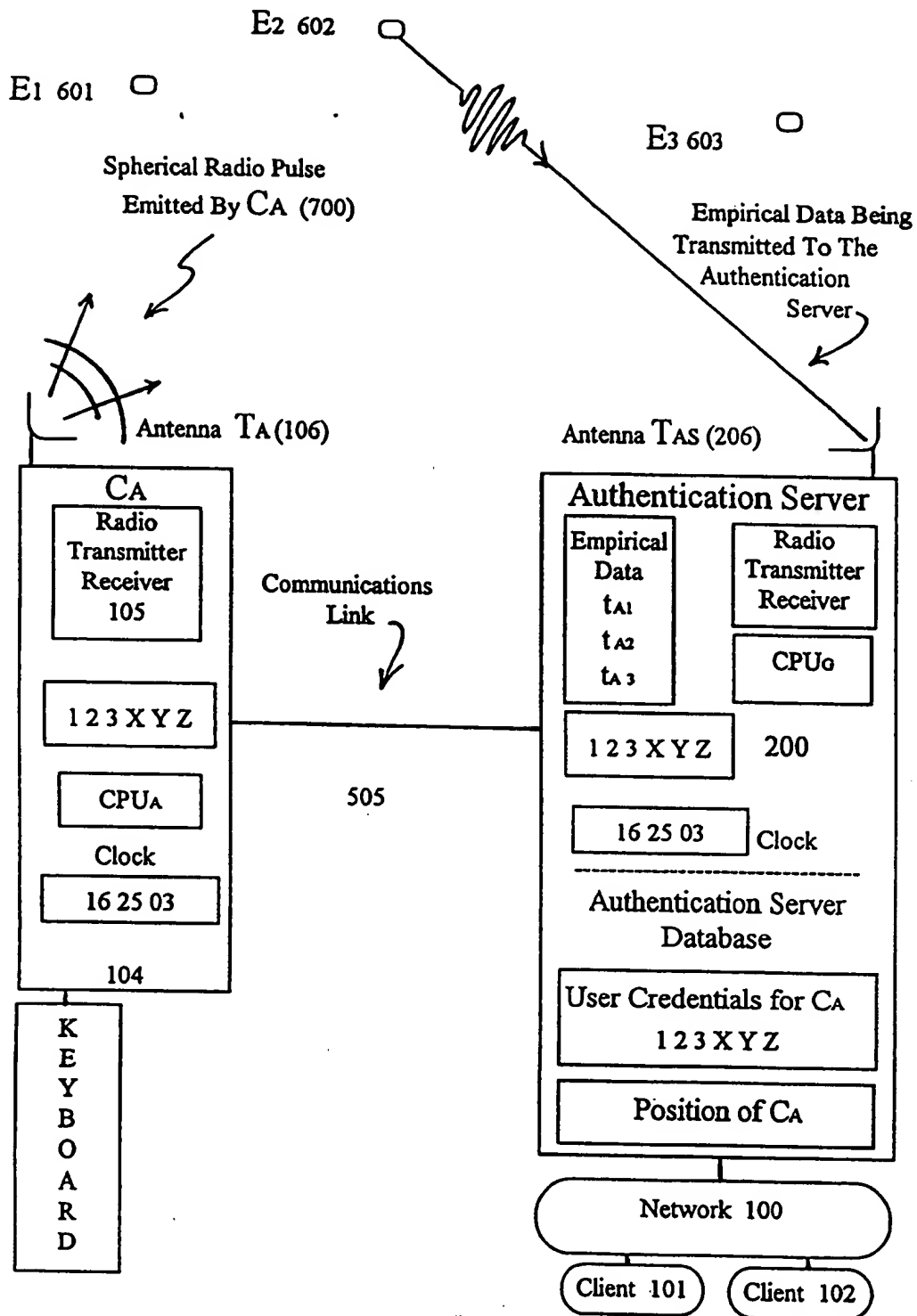


Figure 4

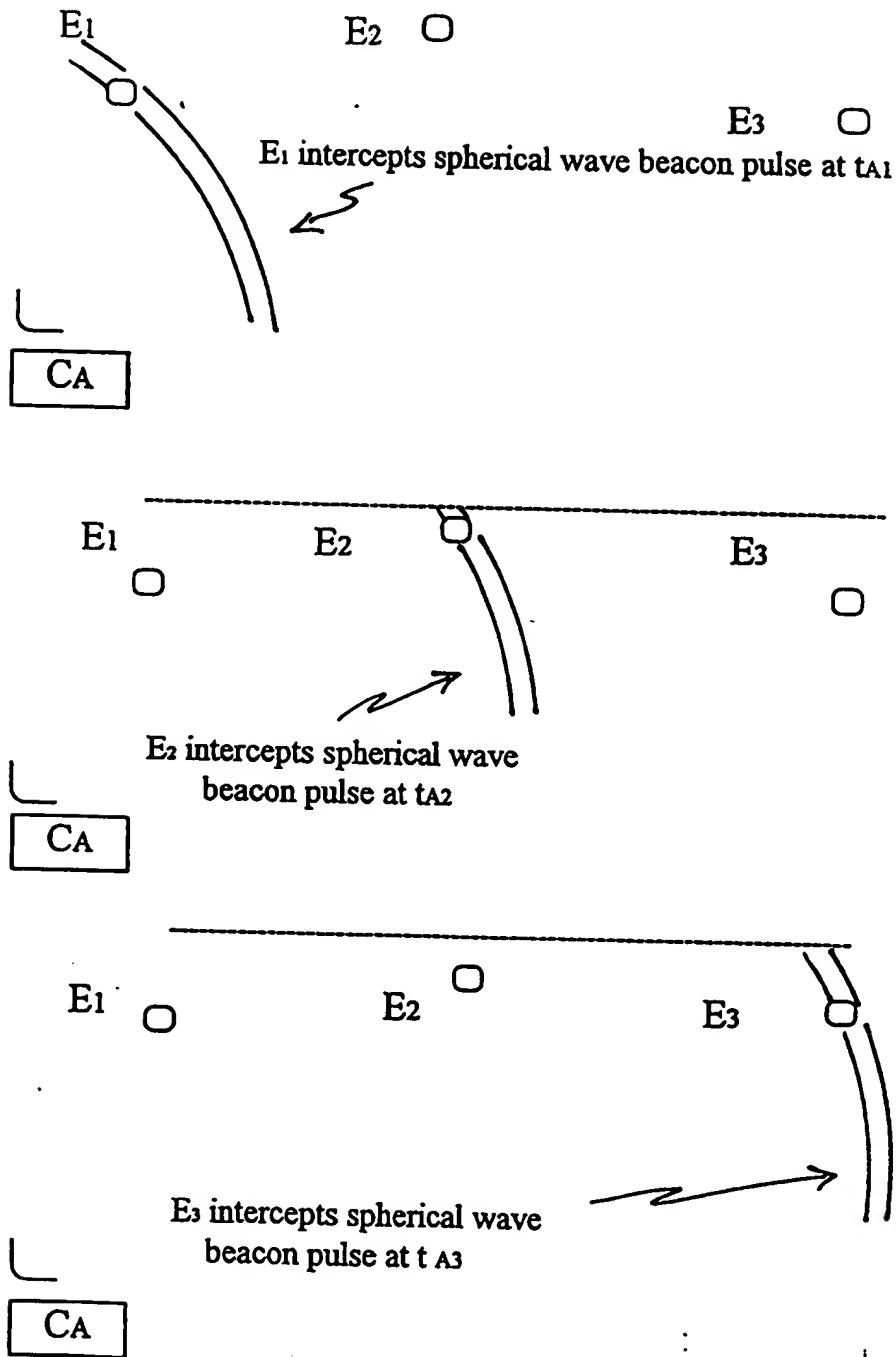


Figure 5

000240-4270950

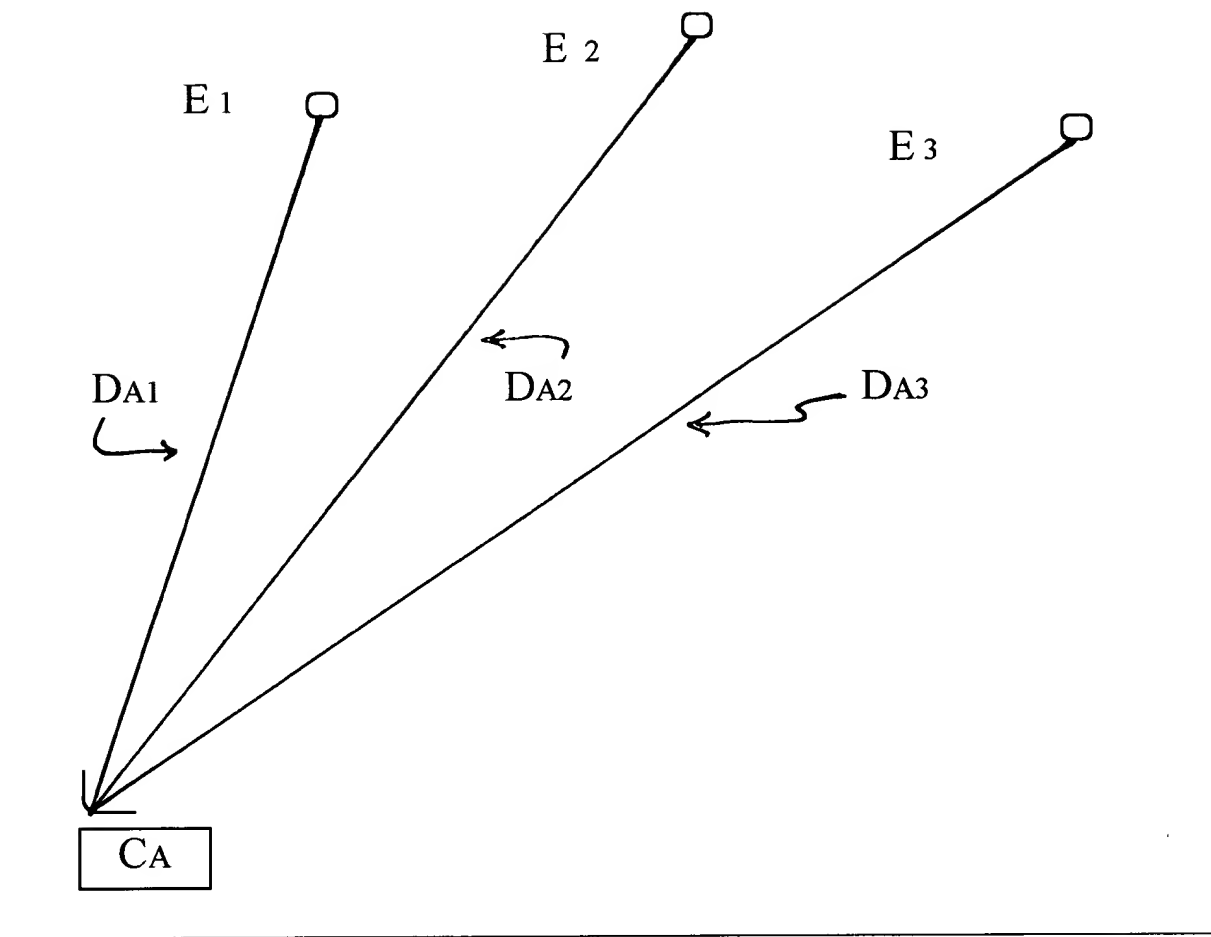


Figure 6

000000-4940000

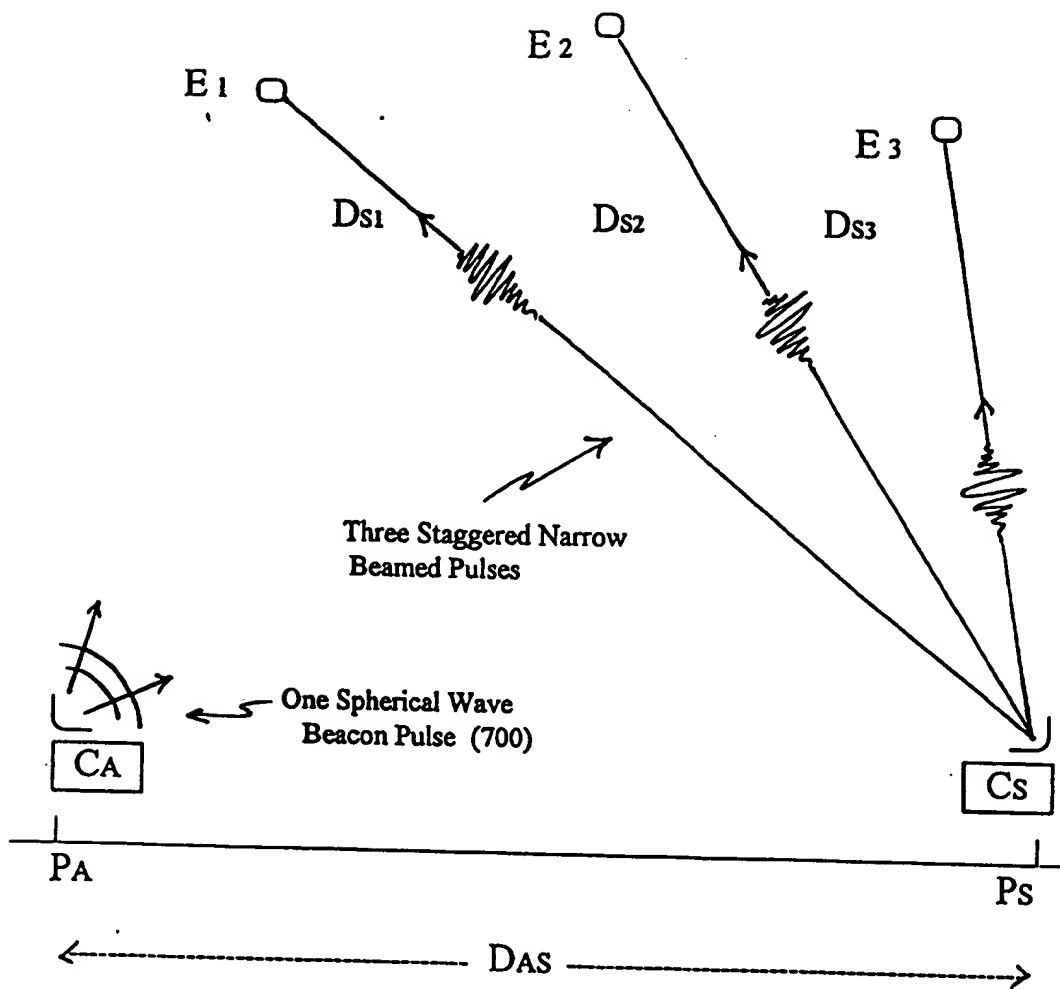


Figure 7

The diagram shows a two-link mechanism. The first link connects joint E_1 to joint E_3 . The second link connects joint E_3 to joint E_2 . Joint E_1 is a revolute joint (indicated by a circle) connected to a fixed base C_A (indicated by a box). Joint E_2 is a revolute joint (indicated by a circle) connected to a fixed base C_S (indicated by a box). Joint E_3 is a revolute joint (indicated by a circle) connecting the two links. The mechanism is shown in a configuration where the first link is horizontal and the second link is vertical. The distance between the bases C_A and C_S is labeled P_A and P_S respectively. The distance between the joints E_1 and E_2 is labeled D_{A3} and D_{S3} respectively.

Figure 8

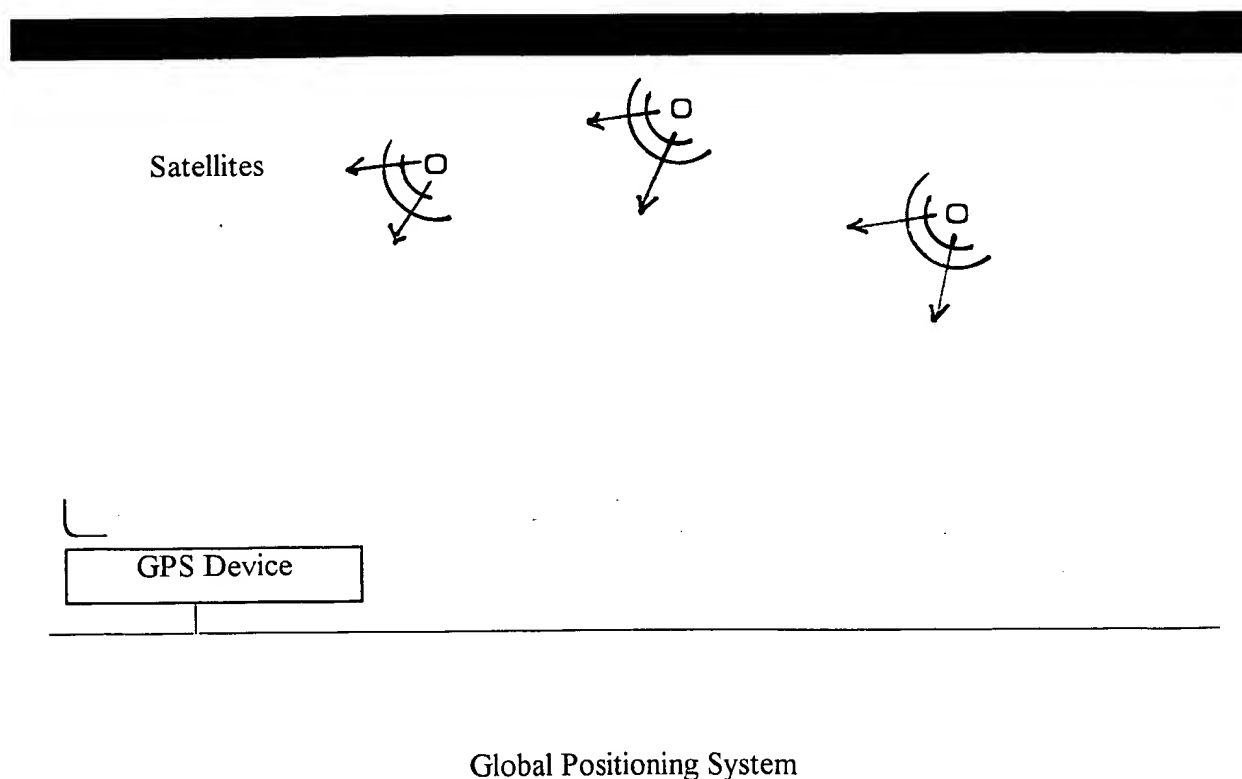
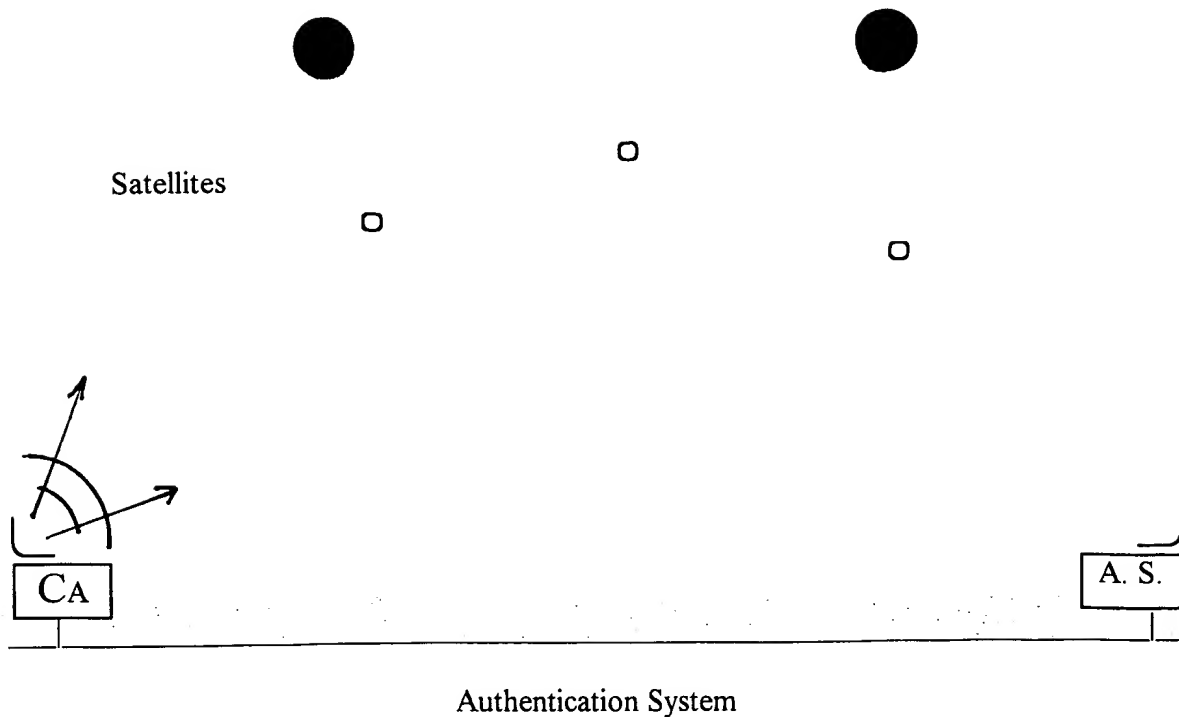


Figure 8A

090340-040000

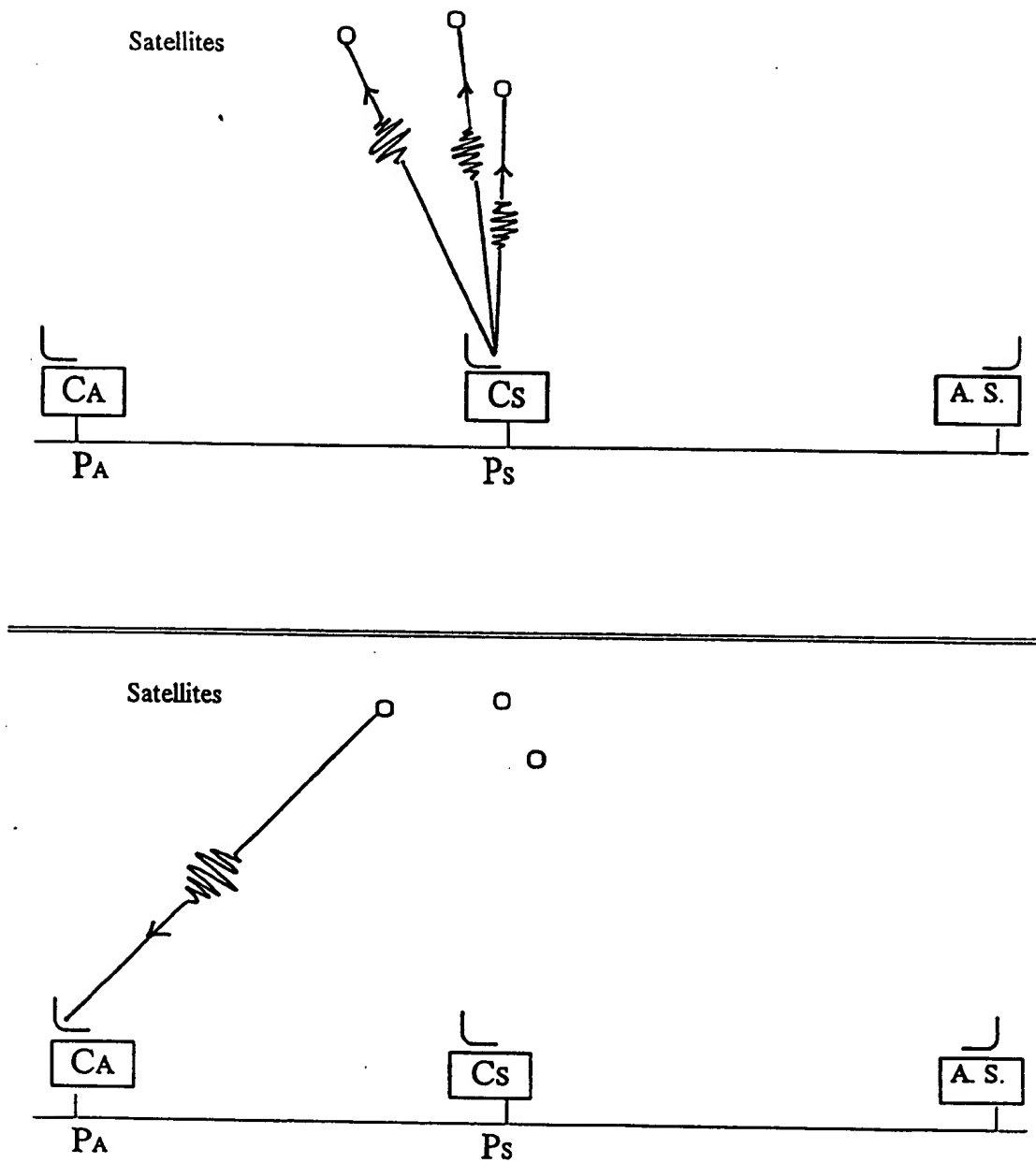


Figure 8b

Figure 9

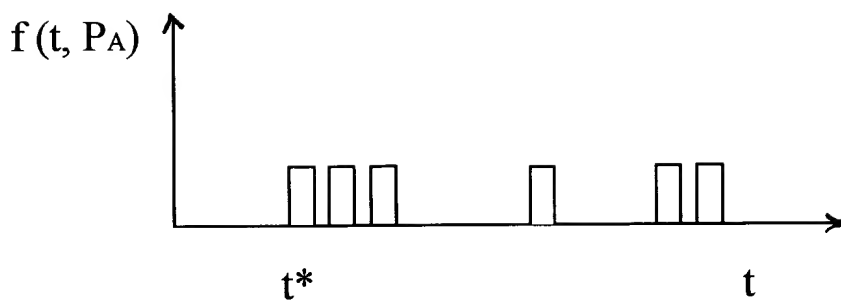


Figure 10

000240-49700560

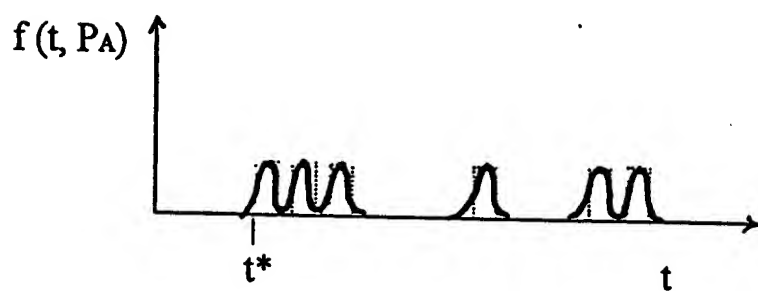


Figure 10 A

000240-4370950

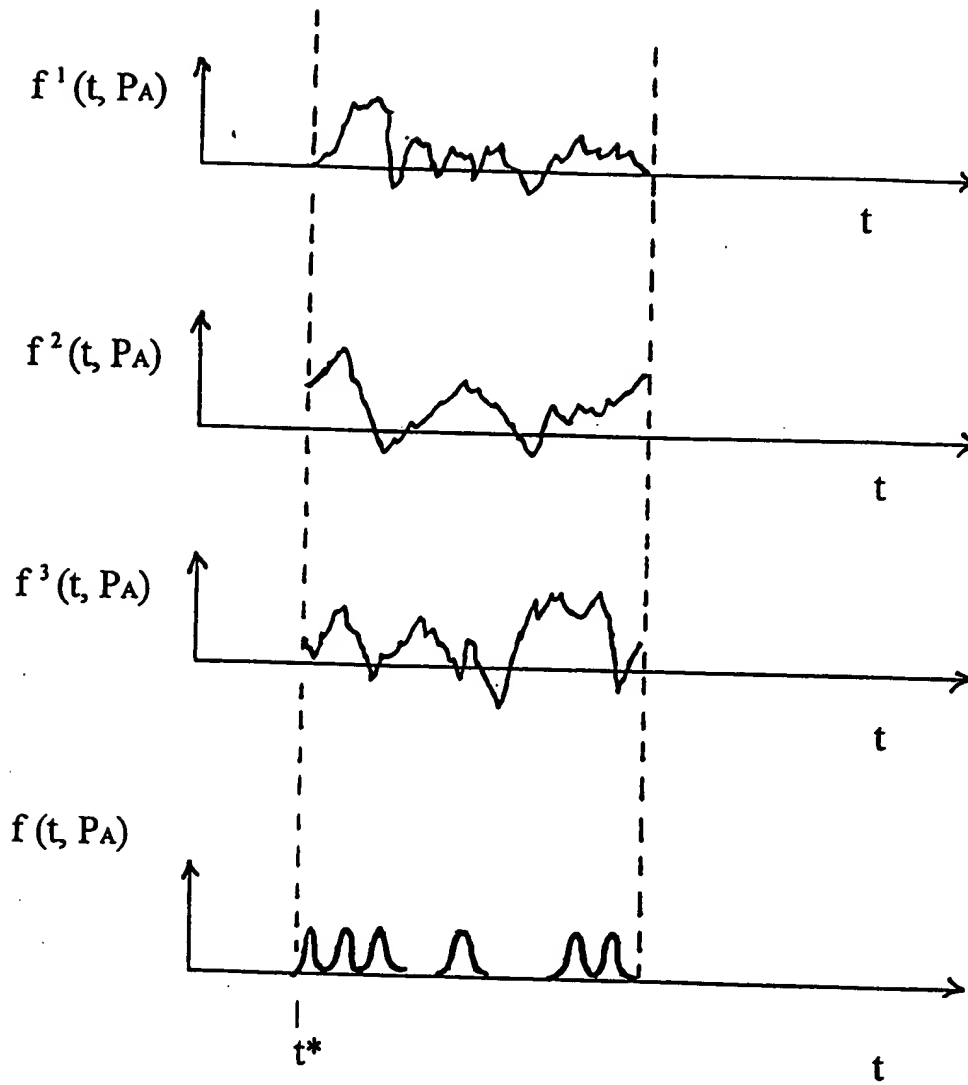
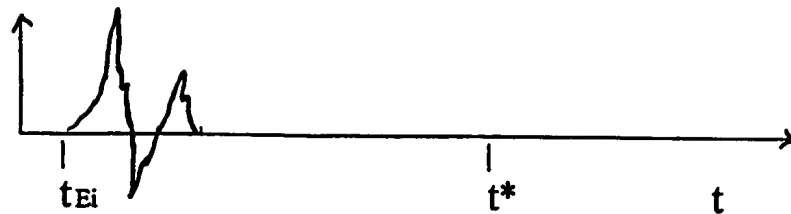


Figure 11

$f^i(t, P_i)$



$f^i(t, P_A)$

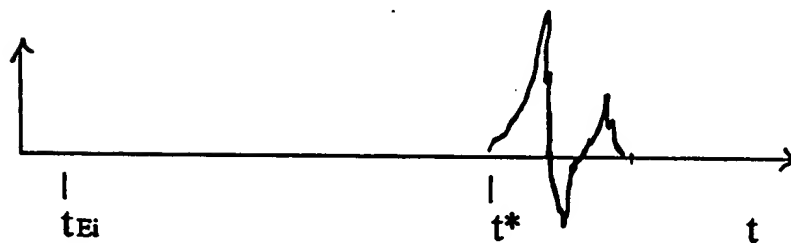


Figure 11A

003370-49/0000

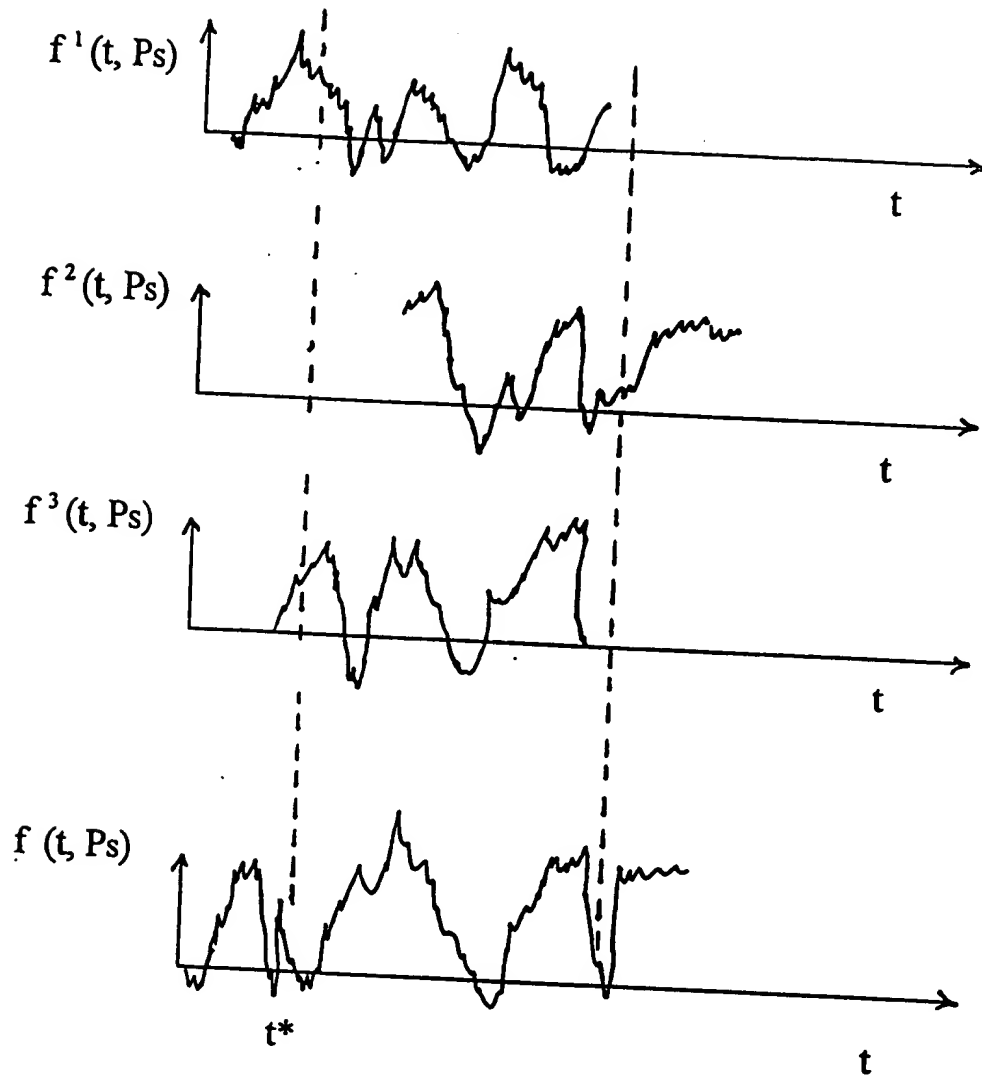


Figure 12

Diagram illustrating Step 7 of the authentication process:

- Entities: CA 104 (labeled PA), Cs 400 (labeled Ps), and Authentication Server 200.
- Encryption Keys: E_1 , E_2 , and E_3 .
- Messages:
 - f^1 (encrypted with E_1) is sent from CA 104 to the Authentication Server 200.
 - f^2 (encrypted with E_2) is sent from Cs 400 to the Authentication Server 200.
 - f^3 (encrypted with E_3) is sent from the Authentication Server 200 to Cs 400.
- Step 6 is indicated by an arrow pointing to the Authentication Server 200.
- A dashed arrow labeled (505) points from the Authentication Server 200 to the right.

Figure 13

Figure 1 consists of four vertically stacked plots, each showing a function of time t . The functions are labeled $f^1(t, P_A)$, $f^2(t, P_A)$, $f^3(t, P_A)$, and $f(t, P_A)$ from top to bottom. The first three plots show highly oscillatory, noisy signals. The fourth plot shows a smoother signal with distinct peaks. Two vertical dashed lines are drawn across all four plots, with the label t^* positioned below the first dashed line in the bottom plot.

Figure 14

